

WE CLAIM:

1. A session initiation protocol (SIP) system for communications between a client and at least one networked appliance, comprising:

a user agent server (UAS) processor connected to said appliance so as to relay commands to said appliance and receive status information from said appliance;

a user agent client (UAC) processor having the capacity to send SIP command messages intended for said appliance to said UAS processor over a communications network and to receive over the communications network status information messages about said appliance from said UAS processor, said UAS processor translating received SIP commands into commands recognized by the appliance and translating information provided by said appliance into SIP status messages for transmission over the communications network to said UAC processor; and

a network appliance system proxy server (Proxy) located between the UAC and the UAS for receiving and conveying information between them; and

wherein the UAS processor does use address mapping capability for handling at least some of the messages to and from the appliances; and

wherein Proxy has address mapping capability to direct said at least some messages through the appropriate UAS processor to the appliance to which they are addressed.

2. A session initiation protocol (SIP) system for communications between a client and at least one networked appliance, comprising:

a user agent server (UAS) processor connected to said appliance so as to relay commands to said appliance and receive status information from said appliance;

a user agent client (UAC) processor having the capacity to send SIP command messages intended for said appliance to said UAS processor over a communications network and to receive status information messages over the communications network about said

appliance from said UAS processor, said UAS processor translating received SIP commands into commands recognized by the appliance and translating information provided by said appliance into SIP status messages for transmission over the communications network to said UAC processor; and

5 a network appliance system proxy server (Proxy) located between the UAC and the UAS for receiving and conveying information between them; and

wherein the UAS processors do not use at least some message authentication capabilities; and

wherein the Proxy has authentication capabilities for the appliances connected to the UAS processors which are in turn connected to the Proxy, said authentication capabilities acting to assure that the message directed to an appliance is from an authorized client.

3. The session initiation protocol (SIP) system of claim 1, wherein the UAS processors do not use at least some message authentication capabilities and the Proxy has authentication capabilities for the appliances connected by the UAS servers to the Proxy, said authentication capabilities acting to assure that the message directed to an appliance is from an authentic client.

4. The session initiation protocol (SIP) system of claim 1, wherein the UAS processors do not use at least some message authorization capabilities and the proxy server has authorization capabilities for the appliances connected by the UAS servers to the Proxy, said authorization capabilities acting to assure that a command in the message directed to an appliance is within the client's authority.

5. The session initiation protocol (SIP) system of claim 1, wherein the UAS processors do not use at least some message translation capabilities and the Proxy has translation capabilities for the appliances connected by the UAS servers to the Proxy, said

translation capabilities acting to assure that a command in the message directed to an appliance is in a form that the appliance can interpret.

6. The session initiation protocol (SIP) system of claim 2, wherein the UAS processors do not use at least some address mapping capabilities and the Proxy has address mapping capabilities for the appliances connected by the UAS servers to the Proxy, said address mapping capabilities acting to assure that a message is directed to the appropriate appliance.

7. The session initiation protocol (SIP) system of claim 2, wherein the UAS processors do use at least some translation capabilities and the Proxy has translation capabilities for the appliances connected by the UAS servers to the Proxy, said translation capabilities acting to assure that a command in the message directed to an appliance is in a form that the appliance can interpret.

8. The session initiation protocol (SIP) system of claim 2, further including an appliance controller located between said UAS processor and said appliance, said controller translating commands from said Proxy into signals which control operation of said appliance and translating status signals from said appliance into signals which can be interpreted by said Proxy.

9. The session initiation protocol (SIP) system of claim 2, wherein there are a plurality of appliances in one geographic location that are networked to a single UAS processor, the command message identifies the appliance to which the message is addressed, and the Proxy directs the message to the proper UAS processor coded to reach the proper appliance for which it is intended.

10. The session initiation protocol (SIP) system of claim 9, wherein the status information from each of the plurality of appliances identifies the appliance from which it originated, and the Proxy includes an identification of the appliance in the status messages sent to said UAC.

11. A method for communications between a client and at least one networked appliance using session initiated protocol (SIP), comprising the steps of:

using a user agent client (UAC) processor to send SIP command messages intended for said appliance over a communications network to a Proxy server;

5 receiving the command message in the Proxy server;

using address mapping capability in said Proxy server to direct at least some messages to a user agent server (UAS) processor associated with said appliance;

receiving a message from said Proxy server at the UAS processor associated with said appliance; and

10 using said UAS processor to translating received SIP commands into commands recognized by the appliance.

12. A method for communications between a client and at least one networked appliance as set forth in claim 11, where in the command is a query and further including the steps of:

15 receiving at the UAS processor from the appliance status information;

using said UAS processor to translate the status information into SIP protocol;

transmitting the UAS status information in SIP protocol to said UAC processor via said Proxy; and

displaying the status information at the UAC processor.

20 13. A method for communications between a client and at least one networked appliance using session initiated protocol (SIP), comprising the steps of:

using a user agent client (UAC) processor to send SIP command messages intended for said appliance over a communications network to a Proxy server;

receiving the command message in the Proxy server;

25 using authentication capability in said Proxy server to assure that the message directed to an appliance is from an authentic client;

receiving a message from said Proxy server at the UAS processor associated with said appliance; and

using said UAS processor to translating received SIP commands into commands recognized by the appliance.

5           14.    A method for communications between a client and at least one networked appliance using session initiated protocol (SIP), comprising the steps of:

              using a user agent client (UAC) processor to send SIP command messages intended for said appliance over a communications network to a Proxy server;

              receiving the command message in the Proxy server;

              using authorization capability in said Proxy server to assure that the message directed to an appliance is contains commands authorized for the client;

              receiving only authorized messages from said Proxy server at the UAS processor associated with said appliance; and

              using said UAS processor to translating received SIP commands into commands recognized by the appliance.

15           15.    A method for communications between a client and at least one networked appliance using session initiated protocol (SIP), comprising the steps of:

              using a user agent client (UAC) processor to send SIP command messages intended for said appliance over a communications network to a Proxy server;

20           receiving the command message in the Proxy server;

              using translation capability in said Proxy server to assure that a command in the message directed to an appliance is in a form that the appliance can interpret;

              receiving a message from said Proxy server at the UAS processor associated with said appliance; and

25           using said UAS processor to translating received SIP commands into commands recognized by the appliance.

16. A method for communications between a client and at least one networked appliance as in claim 15, wherein said Proxy server is at least a first and second Proxy server connected in series and a portion of any one of address mapping, authentication, authorization and translation functions are out-sourced from the UAS processors to at least in part to at least one of the first and second Proxy servers.

5

16. A method for communications between a client and at least one networked appliance as in claim 15, wherein said Proxy server is at least a first and second Proxy server connected in series and a portion of any one of address mapping, authentication, authorization and translation functions are out-sourced from the UAS processors to at least in part to at least one of the first and second Proxy servers.